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EXAMINER	
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1638	18

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Acti n Summary	Application No.	Applicant(s)	
	09/025,635	PANG ET AL.	
	Examin r	Art Unit	
	Anne Kubelik	1638	

-- The MAILING DATE f this communication appears on th cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-94 is/are pending in the application.

4a) Of the above claim(s) 21,22,30,44,45 and 82-92 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-20,23-43,46-81,93 and 94 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. The amendments to claims 19, 50, 62 and 74 requested in Paper No. 17, filed 15 August, 2001, have been entered. Claims 1-94 are pending. Because the DNA constructs of claims 2-20 and 23-26 are used in the methods and seeds of claims 46-81, they are examined, as are the plant cells and plants of claims 26-29 and 31-43. Claims 21-22, 30, 44-45 and 82-92 are withdrawn from consideration for being drawn to non-elected inventions. Claims 1-20, 23-29, 31-43, 46-81 and 93-94 are examined.

Claim Objections

2. Claim 19 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form. Claim 1 is drawn to a DNA construct comprising a trait DNA molecule whose length is insufficient to impart a trait. Dependent claim 19 is drawn to the DNA construct of claim 1 wherein the trait DNA molecule is long enough to impart a trait. The two are mutually exclusive.

3. Claims 2-20, 23-26, 28-29, 31, 33-43, 46-57, 59-81 and 93-94 are objected to because of the following informalities:

There should be no article before "viral" in line 3 of claims 48 and 72.

There is an incorrect article before "DNA construct" in line 1 of claims 2-20, 23-24 and 93-94 and line 3 of claim 46; "DNA expression vector" in line 1 of claims 24-26; "host cell" in line 1 of claims 28-29 and 31; "transgenic" in line 1 of claims 33-43 and 59-69 and line 3 of claim 70; and "method" in line 1 of claims 47-57 and 71-81.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-20, 23-29, 31-43, 46-81 and 93-94 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are broadly drawn to a multitude of DNA constructs that comprise a silencer and one or more trait DNAs, methods of using those constructs and plants and plant seeds comprising those constructs, wherein said plants have the imparted traits. In contrast, the specification only describes a trait DNA molecule from the tomato spotted wilt virus and silencer DNA molecules that are the green fluorescent protein and the turnip mosaic potyvirus coat protein genes. Applicant does not describe other DNA molecules encompassed by the claims, and the structural features that distinguish all such nucleic acids from other nucleic acids are not provided. No description is provided as to structural features (*i.e.*, sequences) that distinguish trait and silencer DNAs from other nucleic acids or from each other. Furthermore, Applicant does not describe plants having all of the myriad of potential traits as broadly claimed.

Hence, Applicant has not, in fact, described DNA molecules that comprise a silencer and one or more trait DNAs and plants with the imparted traits within the full scope of the claims, and the specification fails to provide an adequate written description of the claimed invention.

Therefore, given the lack of written description in the specification with regard to the structural and physical characteristics of the claimed compositions, it is not clear that Applicant was in possession of the genus claimed at the time this application was filed.

See *University of California v. Eli Lilly*, 119 F.3d 1559, 43 USPQ 2d 1398 (Fed, Cir. 1997):

> The name cDNA is not in itself a written description of that DNA; it conveys no distinguishing information concerning its identity. While the example provides a process for obtaining human insulin-encoding cDNA, there is no further information in the patent pertaining to that cDNA's relevant structural or physical characteristics; in other words, it thus does not describe human insulin cDNA .... Accordingly, the specification does not provide a written description of the invention ....

and at pg 1406:

> a generic statement such as "vertebrate insulin cDNA" or "mammalian insulin cDNA," without more, is not an adequate written description of the genus because it does not distinguish the genus from others, except by function. It does not specifically define any of the genes that fall within its definition. It does not define any structural features commonly possessed by members of the genus that distinguish them from others. One skilled in the art therefore cannot, as one can do with a fully described genus, visualize or recognize the identity of the members of the genus. A definition by function, as we have previously indicted, does not suffice to define the genus because it is only an indication of what the genes does, not what it is.

See *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ 2d 1016 at page 1021:

> A gene is a chemical compound, albeit a complex one, and ... conception of a chemical compound requires that the inventor be able to define it so as to distinguish it from other materials .... Conception does not occur unless one has a mental picture of the structure of the chemical or is able to define it by its method of preparation, its physical or chemical properties, or whatever characteristics sufficiently distinguish it. It is not sufficient to define it solely by it principal biological property, *e.g.*, encoding human erythropoietin, because an alleged conception having no more specificity than that is simply a wish to know the identity of any material with that biological property.

6. Claims 1-20, 23-29, 31-43, 46-81 and 93-94 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Neither the instant specification nor the originally filed claims appear to provide support for the phrases "wherein said trait DNA molecule and said silencer DNA molecule are

heterologous to each other" and "wherein at least one of said trait DNA molecule or said silencer DNA molecule is not endogenous to a plant". Thus, such phrases constitute NEW MATTER. In response to this rejection, Applicant is required to point to support for the phrases or to cancel the new matter.

7. Claims 1-20, 23-29, 31-43, 46-81 and 93-94 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for DNA constructs comprising a trait DNA molecule from the tomato spotted wilt virus and silencer DNA molecules that are the green fluorescent protein and the turnip mosaic potyvirus coat protein genes, a method of using them to impart the trait of resistance to turnip mosaic potyvirus and tomato spotted wilt virus to a plant, and plants so transformed, does not reasonably provide enablement for DNA constructs comprising any trait DNA and any silencer DNA and methods of using them to impart any trait. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The claims are broadly drawn to DNA constructs comprising one or more trait DNA molecules with a length insufficient to impart the trait and a silencer DNA molecule wherein the trait and silencer DNA molecules together impart the trait, methods of using those constructs to impart the trait to plants, and transgenic seeds comprising the constructs.

The instant specification, however, only provides guidance for plant expression vectors comprising portions of the N gene of the lettuce isolate of the tomato spotted wilt virus alone or fused to the green fluorescent protein open reading frame and plants transformed with those constructs (example 1), ELISA and Northern blot analysis of the transgenic plants (examples 2 and 5-6), inoculation of the transgenic plants with tomato spotted wilt virus (examples 3 and 5-6),

nuclear run-off transcription assays of the transgenic plant nuclei (examples 4-6), and DNA constructs comprising portions of the N gene of the lettuce isolate of the tomato spotted wilt virus fused to the turnip mosaic potyvirus coat protein gene, transformation into plants, and inoculation of the transgenic plants with multiple viruses to demonstrate the plants are resistant to turnip mosaic potyvirus and tomato spotted wilt virus (example 7).

The instant specification fails to provide guidance for the minimum sizes of the trait and silencer DNA molecules. The specification also fails to teach other DNA constructs comprising other trait DNA molecules and other silencer DNA molecules, host cells and plants comprising the DNA molecules, methods of imparting traits other than viral resistance to plants and transgenic plants with traits other than viral resistance.

Jan et al (2000, J. Gen. Virol. 81:235-242) teach that the minimum length of the N gene trait DNA in such a gene-silencing construct was 110 nucleotides (pg 239, paragraph spanning the columns). The instant specification fails to teach this limitation. The instant specification also fails to teach the minimum length of other trait DNAs.

Given the claim breath, unpredictability in the art, and lack of guidance in the specification as discussed above, the instant invention is not enabled throughout the full scope of the claims.

Applicant's arguments filed 17 August, 2001, to the 112 1st, enablement, rejection of the prior Office action have been fully considered but they are not persuasive.

Applicant urges that the examples teach how to prepare constructs of different lengths of the N gene from tomato spotted wilt virus and methods of using them. Applicant asserts that it would require routine experimentation to make constructs with fragments of other trait DNAs. Applicant also urges that is would be within the abilities of one of skill in the art to identify silencer molecules other than the green fluorescent protein ORF.

This is not found persuasive because, as stated above, the specification does not teach the minimum lengths of the trait DNAs.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-20, 23-29, 31-43, 46-81 and 93-94 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Dependent claims are included in all rejections.

The claims are indefinite in the use of the terms "trait DNA" and "silencer DNA". As the silencer DNA can encode a protein (e.g., pg 19, lines 4-16), it would also appear to be a "trait DNA". Thus in claims like 47, both the "trait DNA" and the "silencer" of claim 1, can be the "plurality of trait DNAs" in the construct. It is unclear what this silencer DNA is - does it encode something? Is it a promoter?

Claim 1 is indefinite in its recitation of "operatively coupled". The operation for which the DNA is coupled is unclear - is it coupling for purposes of transformation? For silencing? It is also unclear what manner of coupling is considered operative.

Claim 1 is indefinite in its recitation of "fusion gene". It is unclear if the phrase is intended to simply mean both the silencer and trait DNAs are on the same construct or if they are intended to interact with one another or what.

Claim 1 is indefinite in its recitation of "effective to achieve post-transcriptional silencing" and claim 20 is indefinite in its recitation of "effects post-transcriptional silencing". It is unclear what is being post-transcriptionally silenced.

In claims 2, 24, 28, 33 and 47 it is unclear if the trait DNA molecules all act together to impart a single trait or if each imparts different traits.

Claim 3 recites the limitation "the trait DNA molecule" in line 2. There is insufficient antecedent basis for this limitation in the claim, as parent claim 2 refers to a plurality of trait DNA molecules. Claims 34, 41-42, 48, 60, 63, 72 and 78-79 also lack antecedent basis for the phrase. Similarly, claims 6, 24-25 and 37 lack antecedent basis for "the trait DNA" in line 2, and claims 54-55 lack antecedent basis for "said trait DNA molecule" in line 2.

Claims 4 and 35 lack antecedent basis for the limitation "said viral cDNA molecules" in line 2.

Claims 5, 12, 36, 50, 62 and 74 are not written in proper Markush format. All the things after "plant virus selected from the group consisting of" should be plant viruses; "combinations thereof" are not viruses. See MPEP § 2173.05(h).

Claims 6-7, 13-14, 37-38, 51-53, 63-64, and 75-77 are indefinite in their recitation of "plant DNA molecule". It is unclear if this DNA molecule is from a plant or is one that can be put into a plant. Similarly, claims 6, 13, 37, 51, 63 and 75 are indefinite in their recitation of "plant genetic trait", as a wide variety of genetic traits can but transformed into a plant.

Claims 7, 14, 38, 64 and 76 are indefinite in their recitation of "plant characteristics" when most Markush group members are in the singular form. Additionally, it is not clear if Applicant intended that a single plant DNA molecule affect multiple characteristics.

Claims 7, 14, 38, 64 and 76 are indefinite in their recitation of "effects". It is not clear exactly what Applicant means here. "Effect" means "to bring about or execute, " while "affect" means "to influence." It is not clear what it means for a plant DNA molecule to bring about or execute plant characteristics.

Claims 7, 14, 38, 64 and 76 are indefinite in their recitation of "combinations thereof". It is not clear exactly what a combination of combination of color and enzyme production would be.

Claims 12, 36 and 50 are not written in proper Markush format. All the things after "virus selected from the group consisting of" should be viruses. A "DNA molecule not encoding a protein" is not a virus. See MPEP § 2173.05(h).

Claim 19 recites the limitation "one of the trait DNA molecules" in line 1. There is insufficient antecedent basis for this limitation in the claim, as the construct of claim 1 comprises only one trait DNA molecule.

Claim 28 is indefinite in its recitation of "a host cell according to claim 26" as claim 26 is drawn to a DNA expression vector. It is suggested that the claim be made dependent upon claim 27.

Claims 46 and 70 are indefinite because they lack agreement between the preamble of the methods and the positive method steps. Methods must be circular; the final step must generate the item the method is intended to produce. For example, the method of imparting a trait to plants in claim 46 ends in transforming a plant with a DNA construct, when it should end in the production of a plant that has the trait.

It is unclear how in the method of claim 46, one can impart a trait to plants by transforming a single plant. Either "plants" should be replaced with --a plant-- or additional steps that generate plants from a plant should be added.

Claims 51 and 75 recite the limitation "the DNA molecule" in line 2. There is insufficient antecedent basis for this limitation in the claim. It is unclear if the phrase refers to the trait DNA molecule or the silencer DNA molecule.

Claim 52 is indefinite in its recitation of "wherein the plant DNA molecule is for a plant". It is unclear in what manner a DNA molecule is for a plant. Similarly, claims 69 and 80 are indefinite in their recitation of "the plant seed is for a plant". Did Applicant intend that the DNA molecules and seed be **from** a plant?

Claim 56 recites the limitation "the plant" in line 2. There is insufficient antecedent basis for this limitation in the claim, as parent claims refer to "the plants".

Claim 57 and 81 recite the limitation "the transgenic plants" in lines 3-4. There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-2, 6-9, 13-16, 18-20, 23-24, 26-29, 31-33, 37-40, 42-43, 46-47, 51-53, 55-59, 63-65, 68-71, 75-76, 80-81 and 93-94 are rejected under 35 U.S.C. 102(b) as being anticipated by Seymour et al (1993, Plant Mol. Biol. 23:1-9). This rejection is modified from the rejection in the Office action mailed 10 March, 2000, to include additional claims. Applicant's arguments filed 27 September, 2000, have been fully considered but they are not persuasive.

Seymour et al teach a DNA construct that comprises a "trait DNA" of a 244 bp DNA encoding part of a polygalacturonase enzyme fused to a silencer DNA, the full-length

pectinesterase (PE) cDNA (Figure 1) and a method of imparting the trait to tomato plants via an expression vector comprising the construct (pg 4, right column, paragraph 2). Ripe fruit was produced (pg 6, right column), which means transgenic seed comprising the DNA construct was produced. Additionally, Seymour et al teach progeny of a self-fertilized T3 plant (pg 7, left column, paragraph 2); thus, methods of growing and propagating the seeds are taught. In the construct, the PE cDNA would act as a full-length trait DNA. The silencer would inherently be effective to achieve post-transcriptional gene silencing.

Alternatively, there are two trait DNA molecules on the DNA construct - the PE cDNA and the PG cDNA. Each cDNA on its own is insufficient to impart the trait because the cDNA comprises no promoter. The CaMV 35S promoter is the silencer DNA, which makes the trait DNAs effective to achieve post-transcriptional silencing.

In yet another interpretation, there are two trait DNA molecules on the DNA construct - the PE cDNA and a portion of the PG cDNA of a length insufficient to impart the trait. The silencer DNA is the rest of the PG cDNA. The trait DNAs and the silencer DNA are heterologous to each other because they do not have the same sequence. The DNA construct has a CAMV 35S promoter and terminator (Figure 1). The PE and PG cDNAs both encode an RNA that is not translatable (abstract). The silencers would inherently be effective to achieve post-transcriptional gene silencing.

Applicant urges that Seymour et al do not show their construct undergoes post-transcriptional gene silencing. Applicant also argues that the PG gene fragment is of insufficient length to independently impart the trait to a plant and that the PE and PG genes are endogenous to tomato. Applicant also urges that Seymour et al fail to teach the use of multiple trait genes (response pg 4-5).

This is not found persuasive because the claim does not require that the trait DNA and the silencer DNA not be endogenous to the plant into which the construct will be transformed, just that they not be endogenous to "a" plant. The PG and PE genes are not endogenous to any plant other than tomato. The PG gene of construct of Seymour et al would not be long enough to impart the trait of increasing the activity of polygalacturonase.

12. Claims 1-5, 8-12, 15-17, 19-20, 23-25, 27-29, 31-36, 39-41, 43, 46-50, 53-54, 56-57 and 93-94 are rejected under 35 U.S.C. 102(b) as being anticipated by Lawson et al (1990 Bio/Technol. 8:127-134).

Lawson et al teach a DNA construct that comprises the "trait DNA" of resistance to potato viruses X and Y (*i.e.*, the potato virus X coat protein cDNA) and a silencer DNA (*i.e.*, the potato virus Y coat protein cDNA; see Fig 2). Both cDNAs are longer than 110 bp. The trait gene is insufficient to impart the trait but the silencer and trait DNAs together can impart the trait. Alternatively, there are two trait DNA molecules on the DNA construct - the potato virus X coat protein cDNA and the potato virus Y coat protein cDNA. Each cDNA on its own is insufficient to impart the trait because the cDNA comprises no promoter. The CaMV 35S promoters are silencer DNAs, which make the trait DNAs effective to achieve post-transcriptional silencing; the promoters would not be endogenous to any plant. In yet a third alternative, there are two trait DNAs, portions of each of the potato virus X and Y coat protein cDNAs of a length insufficient to impart the trait, and two silencers, the rest of those cDNAs. The DNA constructs have a CaMV 35 S promoter and a RuBP carboxylase E9 terminator (pg 128, right column, paragraph 2).

The cDNAs encode RNAs that are translatable. The silencer is inherently effective to achieve post-transcriptional gene silencing.

Lawson et al also teach a method of imparting the trait(s) to potato plants by transformation with an expression vector comprising the construct, plants so transformed, and methods of propagating progeny by regeneration of tubers (pg 129, left column, paragraph 3, and pg 130, right column, paragraph 3-4).

13. Claims 1-5, 8-12, 15-17, 19-20, 23-25, 27-29, 31-36, 39-41, 43, 46-50, 53-54, 56-62, 65-67, 69-74, 77-78, 80-81 and 93-94 are rejected under 35 U.S.C. 102(a) as being anticipated by Tricoli et al (WO 96/21031).

Tricoli et al teach a DNA construct, pPRCPW, that comprises the "trait DNA" of the amino terminal portion of the cucumber mosaic virus (CMV) coat protein ORF and a silencer DNA, the watermelon mosaic virus-2 (WMV-2) coat protein ORF (pg 22, lines 15-28). Both genes are longer than 110 bp. The trait gene is insufficient to impart the trait but the silencer and trait DNAs together can impart the trait. A CaMV 35S promoter drives transcription.

Tricoli et al also teach DNA constructs comprising multiple trait DNA molecules on the DNA construct, with various combinations of the CMV coat protein ORF, the zuccini yellow mosaic virus coat protein ORF, and the WMV-2/CMV fusion protein ORF, and a papaya ringspot virus ORF (pg 25-26). Each ORF on its own is insufficient to impart the trait because the cDNA comprises no promoter. The CaMV 35S promoters are silencer DNAs, which make the trait DNAs effective to achieve post-transcriptional silencing; the promoters would not be endogenous to any plant. The ORFs would encode RNAs that are translatable.

These latter constructs could also be interpreted as containing multiple trait DNAs, each of which is a portion of the various coat protein ORFs of a length insufficient to impart the trait, and multiple silencer DNAs, each of which is the remainder of the coat protein ORFs. The constructs have CaMV 35S promoters and a polyadenylation signal (pg 22, lines 15-28).

Tricoli et al also teach squash, cantaloupe, cucumber and watermelon plants transformed with expression vectors comprising these constructs, and R_1 and R_2 seeds and plants produced from the transgenic plants (pg 26-39). The silencer would inherently be effective to achieve post-transcriptional gene silencing.

14. Claims 1-2, 6-8, 13-15, 17, 19-20, 23-24, 26-29, 31-33, 37-39, 41, 43, 46-47, 51-52, 54, 56-59, 63-65, 67, 69-71, 75-76, 78, 80-81 and 93-94 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Blokland et al (1994, Plant J. 6:861-877) taken with the evidence of van der Krol et al (1990, Plant Mol. Biol. 14:457-466).

Van Blokland et al teach DNA constructs and expression vectors comprising the *uidA* gene, which would be a silencer DNA, the 5' portion of the plant chalcone synthase *chsA* gene, which would be a trait DNA, the CaMV 35S promoter and the *nos* polyadenylation signal and petunia plants and seeds transformed with the vectors (Figure 1 and pg 863, paragraph spanning the columns and right column paragraph 2). van der Krol et al teach that the 5' half of the *chsA* gene was of a length insufficient to impart the trait of altering flower color (pg 459, right column, to pg 461, left column). Van Blokland et al also teach methods of imparting the trait of altered flower color to plants and methods of planting the seeds (pg 863, paragraph spanning the columns and right column paragraph 2). The *chsA* gene would not be endogenous to all plants except petunia. The constructs could also be interpreted as having two trait DNAs, the *chsA* gene and a portion of the *uidA* gene, and a silencer DNA, which is the rest of the *uidA* gene.

The cDNAs encode RNAs that are translatable. The silencer is inherently effective to achieve post-transcriptional gene silencing.

Conclusion

15. No claim is allowed.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (703) 308-5059. The examiner can normally be reached Monday through Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at (703) 306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the patent analyst, Kimberly Davis, at (703) 305-3015.

Anne R. Kubelik, Ph.D.
April 8, 2002

AMY J. NELSON, PH.D
SUPERVISORY PATENT EXAMINER
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